

STEPANENKO, A.F.

Unit of mounted hydraulic drills for planting grapes. Trakt.i
sel'khoz mash. 31 no.2:35 F '61. (MIRA 14:7)

1. Vserossiyskiy nauchno-issledovatel'skiy institut mekhanizatsii
i elektrifikatsii sel'skogo khozyaystva.
(Boring machinery)

STEPANENKO, A. G.

Stepanenko, A. G. "Reaction of Various Strains of Sugar Beet to Root Rot," Naukovi Zapiski z Tsukrovoi Promislovosti, vol. 10, no. 3-4, 1930, pp. 325-336. 65.9 K544

So: SIRA - Si - 90-53, 15 Dec 1953

STEPANENKO, A. G.

"Gas Metabolism and Changes in the Oxidation Processes in an Isolated Tissue During Experimental Shock." Cand Biol Sci, Second Moscow State Medical Inst imeni I. V. Stalin, Moscow, 1955. (KL, No 11, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

DERVIZ, G.V. [Dervyz, H.V.]; STEPANENKO, A.G. [Stepanenko, A.H.]

Distribution in the blood and organs and the excretion from the body of polyglucin after its administration into the blood stream. Ukr. biokhim. zhur. 33 no.4:467-475 '61. (MIRA 15:6)

1. Central Order of Lenin Institute of Hematology and Blood Transfusion of the Ministry of Health of the U.S.S.R., Moscow.
(DEXTRAN)

KONDRATYUK, Pavel Ivanovich; STEFANENKO, A.I., inzh., retsenzent;
PILIPENKO, Yu.P., inzh., red.; GORNOSTAYPOL'SKAYA, M.S.,
tekhn. red.

[Machines for the over-all mechanization of hay harvesting]
Mashiny dlia kompleksnoi mekhanizatsii uborki trav na seno.
Moskva, Mashgiz, 1962. 156 p. (MIRA 15:7)
(Hay--Harvesting) (Harvesting machinery)

VENDRIKH, German Aleksandrovich; RYABTSOVSKIY, Mikhail Ivanovich;
STEPANCHENKO, A.I., red.; TRUSHKINA, T.M., tekhn.red.

[Irkutsk under construction] Stroiashchiisia Irkutsk. [Irkutsk]
Irkutskoe knizhnoe izd-vo, 1956. 134 p. (MIRA 11:1)
(Irkutsk--Description)

BROYDO, Solomon Moiseyevich; STEPANCHENKO, A.I., red.; SOROKINA, T.I.,
tekhn.red.

[Beyond the 62nd parallel] Za 62-i parallel'iu. [Irkutsk]
Irkutskoe knizhnoe izd-vo, 1957. 181 p. (MIRA 11:3)
(Siberia--Description and travel)

BUBLIKOV, V.V.; KLUGMAN, I.Yu.; STEPANENKO, A.L.

Continuous-action moisture meter for commercial petroleum.
Neft. khoz. 43 no.8:60-62 Ag '65.

(MIRA 18:12)

BEYLIN, M.I., kand.tekhn.nauk; KHADZHIOGLO, A.V.; BUTKO, V.I.; STEPANENKO, A.M.;
SIPOVICH, S.Yu.; LITMANOVICH, I.M.

Experiment in coal slurry drying in a fluidized bed. Koks i khim. no.
11:18-20 '63. (MIRA 16:12)

1. Khar'kovskiy institut gornogo mashinostroyeniya, avtomatiki i vychislitel'noy tekhniki (for Beylin, Khadzhioglo, Butko, Stepanenko).
2. Yasinovskiy koksokhimicheskiy zavod (for Sipovich, Litmanovich).

BEYLIN, M.I., kand. tekhn. nauk; STEPANENKO, A.M.

Studying the drying of common salt in a fluidized bed. Sbor.
nauch. trud. UkrNIISol' no.7:111-116 '64 (MIRA 18:1)

STEPANENKO, A.M.

New design of mixer for the sintering of charge components.
Met. i gornorud. prom. no.2:74 Mr-Ap '65.

(MIRA 18:5)

YAKIMUK, P.G., inzhener-mekhanik; VASILYUK, N.F.; GAL'PERIN, L.Yu.;
ZAYTSEV, T.F.; KARPEN'KO, S.A.; STEPANENKO, A.N.; YAVORSKIY, A.A.;
SHAGOMYALO, V.I., redaktor; GURZHIY, M.Ye., tekhnicheskiy redaktor

[Tractor operator's manual] Spravochnik traktorista. Izd. 4-oe,
perer. i dop. Kiev, Gos. izd-vo selkhoz. lit-ry USSR, 1955. 519 p.
(Tractors--Handbooks, manuals, etc) (MIRA 9:1)

STEPANENKO, H. N.

VASILYUK, N.F.; GAL'PERIN, L.Yu.; ZAYTSEV, T.F.; KARPENKO, S.A.; STEPANENKO,
A.N.; YAVORSKIY, A.A.; YAKIMUK, P.G., inzhener-mekhanik, redaktor;
KOZAK, F.Ye., redaktor; CHEREVATSKIY, S.A., tekhnicheskij redaktor

[Handbook for tractor operators] Spravochnik traktorista. Izd. 5-oe,
perer. i dop. Kiev, Gos. izd-vo sel'khoz. lit-ry USSR, 1956. 471 p.
(Tractors) (MIRA 10:4)

12.1.1957/AA.
ZAYTSEV, T.F.; KARPENKO, S.A.; NESVITSKIY, Ya.I.; kandidat tekhnicheskoy
nauk; STEPANENKO, A.N.; YAVORSKIY, A.A.; SHAGOMYALO, V.I.,
redaktor; KRAVCHENKO, H.F., tekhnicheskoy redaktor

[Tractor brigade leader's manual] Spravochnik brigadira
traktornoj brigady. Izd. 2-oe, dop. Kiev, Gos. izd-vo sel'khoz.
lit-ry USSR, 1956. 483 p. (MLRA 10:4)
(Tractors)

STEPANENKO, A.N.
OS'MAK, Illarion Terent'yevich; IRODOV, Aleksandr Vyacheslavovich;
~~STEPANENKO, A.N.~~ inzh., retsenzent; DAVIDENKO, N.M., retsenznet;
SERDYUK, V.K., inzh., red.; RUDENSKIY, Ye.V., tekhn.red.

[Corn-harvesting machinery] Mashiny dlia uborki kukuruzy. Kiev,
Gos.nauchno-tekhn.izd-vo mashinostroit..lit-ry, 1957. 276 p.
(Corn picker (Machine)) (MIRA 11:4)

OS'MAK, Illarion Terent'yevich, kand.tekhn.nauk; STEPANENKO, A.M., red.;
MATIYKO, O.M. [Matiiko, O.M.], red.; TUBOLEVA, M.V. [Tubolieva,
M.V.], red.

[Over-all mechanization of corn harvesting] Kompleksna mekhanizatsiia
zbyrannia kukurudsy. Kyiv, 1958. 47 p. (Tovarystvo dlia poshyrennia
politychnykh i naukovykh znan' Ukraini's'koi RSR. Ser.3, no.2)
(MIRA 12:3)

(Corn (Maize)--Harvesting)

STEPANENKO, A.N., inzh.-mekhanik

Experience of work brigades in the over-all mechanization of
corn growing. Mekh.sil'.hosp. 9 no.12:8-9 D '58.

(MIRA 12:1)

(Agricultural machinery)

(Corn (Maize))

STEPANENKO, A.N.

Advice to collective farm machinery operators on the organization of their work. Mekh.sil'.hosp. 10 no.11:8-9
N '59. (MIRA 13:3)

1. Glavnyy inzhener po ekspluatatsii traktorov, Ministerstvo sel'skogo khozyaystva USSR.
(Farm mechanization)

STEPANENKO, A.N.

For wider introduction of increased speeds operating tractor-driven machinery. Mekh. sil'. hosp. 11 no.7:3-5 J1 '60.

(MIRA 13:10)

1. Glavnyy inzhener po ekspluatatsii traktorov Ministerstva sel'skogo khozyaystva USSR.

(Agricultural machinery)

STEPANENKO, A.N., inzh.

Safety measures in operating tractors. Mekh. sil'. hosp. 11 no.11:17-
18 N '60. (MIRA 13:11)

(Tractors—Safety measures)

STEPANENKO, A.N., inzh.

Safety measures for operating soil cultivating, sowing, planting,
and harvesting machinery. Mekh. sil'. hosp. 11 no.12:20 D '60.

(MIRA 13:12)

(Agriculture--Safety measures)

STEPANENKO, ANDREY NAUMOVICH

[How highly efficient operators in Odessa Province work] Tak
pratsiuiut' shvydkisnyky Odeshchyny. Kyiv, Derzh. vyd-vo
sil'skohospodars'koi lit-ry URSR, 1961. 16 p. (MIRA 15:5)
(Odessa Province--Agricultural machinery)

STEPANENKO, A.N., inzh.

Safety measures in operating feed-preparing machinery. Mekh.
sil'. hosp. 12 no. 1:26-27 Ja '61. (MIRA 14:1)
(Agriculture—Safety measures)

STEPANENKO, A.N., inzh.

Duties of the collective farm machinery operator. Mekh. sil'. hosp.
12 no. 2:30 F '61. (MIRA 14:4)
(Agricultural machinery—Maintenance and repair)

STEPANENKO, A.N.

The quality of the technical maintenance of machinery depends on good organization. Mekh. sil'. hosp. 13 no.8:21-22 Ag '62. (MIRA 15:7)

1. Nachal'nik Upravleniya proizvodstvenno-tekhnicheskogo obsluzhivaniya ob'yedineniya "Ukrsil'gosptekhnika".
(Tractors—Maintenance and repair)
(Motortrucks—Maintenance and repair)

STEPANENKO, A. N., inzh.; ZAL'TSMAN, I. N.

Answers to readers. Mekh. sil'. hosp. 14 no.1:32 Ja '63.
(MIRA 16:4)

1. Ministerstvo proizvodstva i sagotovok sel'skokhozyaystvennykh
produktov UkrSSR (for Zal'tsman).

(Tractors—Engines)
(Agricultural wages)

STEPANENKO, A.N.

How to build a field camp for a tractor brigade. Mekh. sil'.
hosp. 14 no.4:29-31 Ap '63. (MIRA 16:10)

1. Nachal'nik upravleniya proizvodstvenno-tekhnicheskogo
obslyzhivaniya Ukrainskogo respublikanskogo ob"yedineniya
"Ukrsil'gosptekhnika".

STEPANENKO, A.N.

Maintain machinery in a businesslike manner. Mekh. sil'. hosp.
14 no.11:12-14 N'63. (MIRA 17:2)

1. Nachal'nik upravleniya proizvodstvenno-tekhnicheskogo
obslyzhivaniya respublikanskogo ob'yedineniya "Ukrsil'gosptekhnika".

STEPANENKO, A.P.:

STEPANENKO, A.P.: "The effect of operative treatment of certain forms of goiter on the antitoxic functions of the liver and on the content of potassium and calcium in the blood serum". Kiev, 1955. Kiev Order of Labor Red Banner Medical Inst imeni Academician Bogomolets. (Dissertations for the Degree of Candidate of Medical Sciences.)

So. Knizhnaya letopis'. No. 49, 3 December 1955. Moscow.

STEPANENKO, A.P. (Kiyev)

Antitoxic function of the liver and its modification following
surgical therapy of various forms of goiter. Probl. endok. i gorm.
2 no.1:35-36 Ja-F '56. (MIRA 9:10)

1. Iz kafedry khirurgicheskikh bolezney (zac. - zasluzhennyy deyatel'
nauki prof. A.K.Gorchakov) Kiyevskogo meditsinskogo stomatologicheskogo instituta.

(GOITER, surgery

postop. liver funct. test (Rus))

(LIVER FUNCTION TESTS, in various diseases,
goiter, eff. of surg. (Rus))

GORCHAKOV, A.K., prof., zasluzhennyy deyatel' nauki; STEPANENKO, A.P.,
kand.med.nauk; ROMASHKAN, N.V.

Postthyrototoxic hypertension; preliminary report. Vrach.delo no.11:
1159-1162 N '59. (MIRA 13:4)

1. Kafedra khirurgii (zaveduyushchiy - zasluzhennyy deyatel' nauki,
prof. A.K. Gorchakov) stomatologicheskogo fakul'teta Kiyevskogo medi-
tsinskogo instituta i gorodskoy protivozobnyy dispanser.
(GOITER) (HYPERTENSION)

GORCHAKOV, A.K., zasluzhennyy deyatel' nauki, prof. (Kiyev, Bessarabskaya pl., d.5, kv.38); STEPANENKO, A.P., kand.med.nauk; ROMASHKAN, N.V.

Treatment of hypothyreosis and hypoparathyreosis. Nov. khir. arkh. (MIRA 15:2)
no.1:39-41 Ja-F '60.

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. A.K.Gorchakov)
stomatologicheskogo fakul'teta Kiyevskogo meditsinskogo instituta.
(THYROID GLAND__DISEASES)
(PARATHYROID GLANDS__DISEASES)

STEPANENKO, A.P.; FOMENKO, L.I.

Oxygen therapy in the hyperthyroid form of goiter. Vrach. delo
no.8:124-125 Ag '60. (MIRA 13:9)

1. Kafedra khirurgii steomatologicheskogo fakul'teta (zav. -
zasluzhennyi deyatel' nauki, prof. A.K. Gorachkov) Kiyevskogo
meditsinskogo instituta.
(GOITER) (OXYOEN---THERAPEUTIC USE)

STEPANENKO, A. P., kand. med. nauk; ROMASHKAN, N. V., kand. med. nauk

Use of splenin in treating some endocrine diseases. Vrach. delo
no.7:128-129 J1 '62. (MIRA 15:7)

1. Kiyevskiy meditsinskiy institut i Kiyevskiy gorodskoy protiv-
zobnyy dispanser.

(SPLENIN) (ENDOCRINE GLANDS—DISEASES)

L 26505-66 EWP(m)/EWI(1) GS

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B+

ACC NR: AT6008147

AUTHOR: Saykovskiy, M.I.; Dorfman, A.Sh. (Candidate of technical sciences); Didenko, O.I.; Kussyuk, A.I.; Stepanenko, A.P.

ORG: None

TITLE: Results of aerodynamic investigation of the compressor intake on models and in full scale

SOURCE: AN UkrSSR. *Tekheniya zhidkostey i gazov* (Flows of liquids and gases) Kiev, Naukova dumka, 1965, 72-80

TOPIC TAGS: compressor design, aerodynamic test, test model

ABSTRACT: The paper describes scale model and full scale aerodynamic tests on compressor intakes. Rigidly oriented 3-channel total pressure tubes installed in a rotatable ring were used to measure the flow turning angle, velocity, and total air pressure. Schematics of the compressor intake are shown. The energy loss coefficient, ξ , of the intake was calculated from the average loss of total pressure, Δ_0 , the average ram density, ρ , the average normal velocity, v_n , and the compressibility correction factor δ ($\delta = 1 - M^2/4$) using: $\xi = 2 \Delta_0 / \rho \cdot v_n^2$. (1) Conditions and measurement results are given for 12 design variants. All variants show a fairly uniform distribution of velocities over the cross sections. Losses are comparatively low in all variants, somewhat

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ACC NR: AT6008147

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lower for the design with a diagonally disposed entrance. Hints for efficient compressor intake design are discussed, among them the necessity to have adequate overall axial dimensions so as not to increase unduly the curvature at flow bends. Model tests have indicated a sufficiently close correspondence of the flow rotation angles and velocity distributions with the full scale data. Orig. art. has: 4 figures, 1 formula.

SUB CODE: 13/

SUBM DATE: 01Sep64

Card 2/2 NC

DORFMAN, A.Sh., kand.tekhn.nauk; DAYKOVSKIY, M.I., kand.tekhn.nauk;
DIDENKO, C.I., inzh.; STOKHANENKO, A.P.

Results of the aerodynamic operation of the exhaust ducts of
the GT-6-750 gas turbine system. Energomashinostroenie. 11
no.2:17-20 F '65. (MIRA 18:4)

L 41078-65 EPA/EWT(1)/EWP(m)/EWP(f)/EPF(n)-2/EPR/T-2/EPA(bb)-2/FCS(k)/EWA(1)

Pd-1/Paa-4/Ps-4/P1-4 WW

ACCESSION NR: AP5005835

S/0114/65/000/002/0017/0020 4/1

AUTHOR: Dorfman, A. Sh. (Candidate of technical sciences); Saykovskiy, M. I. (Candidate of technical sciences); Didenko, O. I. (Engineer); Stepanenko, A. P. (Engineer)

TITLE: Results of aerodynamic testing of pipe models of GT-6-750 gas-turbine plant

SOURCE: Energomashinostroyeniye, no. 2, 1965, 17-20

TOPIC TAGS: gas turbine, exhaust duct, inlet duct / GT-6-750 gas turbine

ABSTRACT: Results of the designing and aerodynamic testing of models of the turbine exhaust duct and compressor inlet duct are reported. Five variants of the exhaust duct (dimensions tabulated) were tested by integral methods within

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ACCESSION NR: AP5005835

and diagonal entrances — of the inlet ducts were tested; each variant had two modifications (0.73 and 0.71 hub-tip ratios). It is found that: (1) Increasing the axial dimension of the exhaust duct to a certain limit results in its higher

4 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: PR

NO REF SOV: 001

OTHER: 000

llc
Card 2/2

STEPANENKO, A.S., dotsent

Effect of arginine on enzyme activity in tissue respiration in mice with transplanted cancer. Report No.1: Effect of arginine on succin- and cytochromeoxidases of the heart, kidneys and the tumor in transplanted cancer in mice. Trudy OMI no.25:183-190 '59.

(MIRA 14:10)

1. Iz kafedry biokhimii Omskogo meditsinskogo instituta imeni Kalinina, zav. kafedroy dotsent A.S.Stepanenko.
(CANCER) (ARGININE)

STEFANENKO, Aleksey Stepanovich; LEPIK, A.E., red.; FRESNOVA,
V.A., tekhn. red.

[Progressive grinding methods] Progressivnye metody shli-
fovaniia. Leningrad, Lenizdat, 1963. 57 p.

(MIRA 17:1)

1. Shlifovshchik stankostroitel'nogo zavoda imeni Sverdlova,
Leningrad (for Stepanenko).

(Grinding and polishing)

BAD'INA, I., domokhozyayka (g.Ul'yanovsk); STEPANENKO, B. (g.Ul'yanovsk);
KAGANOV, L. (g.Ul'yanovsk)

Behind the screen of unavoidable causes. Prom.koop. 12 no.12:
37 D '58. (MIRA 12:2)

1. Reydovaya brigada zhurnala "Promyslovaya kooperatsiya" (for all). 2. Sotrudnik redaktsii gazety "Ul'yanovskaya pravda" (for Stepanenko). 3. Spetsial'nyy korrespondent zhurnala "Promyslovaya kooperatsiya" (for Kaganov).
(Ul'yanovsk Province--Shoe manufacture)

STEPANENKO, B. (Chelyabinsk)

The factory has three thousand gardeners. Sov.profssoiuzy 7
no.9:33 My '59. (MIRA 12:8)
(Chelyabinsk--Workingmen's gardens)

STEPANENKO, B.N.; BLAGOVIDOVA, Yu.A.; BELOVA, O.I.

Current status and prospects of the use of high molecular-weight compounds in pharmacy. Apt. delo 12 no.2:3-15 Mr-Ap '63.
(MIRA 17:7)

1. I Moskovskiy ordena Ienina meditsinskiy institut imeni I.M. Sechenova i Tsentral'nyy aptekhnny nauchno-issledovatel'skiy institut.

CA

The active form of simple sugars. 1. The reactivity of 6-triphenylmethyldigluconate. A. V. Stepanov and H. N. Stepanenko. *Doklady Akad. Nauk SSSR* 1964, 171, 1000. 2. A comparative study of the rate of oxidation of a glucose phosphate and glucose. A. Kozlov and A. Kozlov. *Dokl. Akad. Nauk SSSR* 1964, 171, 1001. In neutral solution, the phosphate is at first more rapidly oxidized than glucose. As the oxidation proceeds, a slowing down of the phosphate oxidation is observed. In neutral solution glucose is more rapidly oxidized than the phosphate. H. Cohen

L. C. Cechinska Laboratory, Vinnitsa, Moscow

AS 5.4 METALLURGICAL LITERATURE CLASSIFICATION

BC

Active form of monosaccharides. III. Mechanism of addition of hydrocyanic acid. IV. Reactivity of glucose-6-phosphate. A. V. STEFANOV and B. N. STEFANENKO (Biochimia, 1967, 2, 875-888, 887-888).--III: The catalytic effect of addition of bases to solutions of sugars (glucose, galactose, fructose) and HCN is at a max. when the entire HCN is neutralized. The reaction of cyano-hydrin formation is represented: $>C=O + NH_4^+ \rightleftharpoons K^+ONH_4 \rightleftharpoons K^+ONH_2-CN \xrightarrow{H_2O} K^+(OH)-CN + NH_3$. The reaction proceeds in 10% but not in 80% MeOH, in which ionization of NH_4CN is suppressed. The velocity of reaction in presence of C_6H_5N or piperidine or dissociation const. of the cyanides formed, but is smaller with NMe_3 than with NH_3 , showing that not only the dissociation const. of the salt, but also the nature of the cation, influences the reaction.

IV. Cyano-hydrin formation is more rapid with Ba glucose-6-phosphate than with glucose, in presence or absence of NH_3 . R. T.

LAB. OF Carbohydrates, Chem. Sect., Vinn, Moscow

ASR-1LA METALLURGICAL LITERATURE ASSOCIATION

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES - 112																																																			
<p>The active form of simple sugars. V. Reaction capacity of simple sugars in the presence of neutral salts A. V. Stepanov and B. N. Stepanenko. <i>Doklady Akad. Nauk SSSR</i> 1939; 21, 2513. The addn. of neutral salts (Na_2SO_4, NaNO_3, KNO_3) to an aq. glucose soln. causes an increase in the rate of HCN absorption by glucose. The sugar activation in the presence of neutral salts is said to be due to the dehydration of the hydrated form of the sugar. H. Cohen</p>																																																			
<p><i>Carbohydrate Laboratory, Vinnitsa, Moscow</i></p>																																																			
<p>ASB-3.6 METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

10

PROCESSES AND PROPERTIES INDEX

The active form of simple sugars. VI. The reactivity of fructose 1-phosphate. A. V. Stepanov and B. N. Stepanenko. *Biokhimiya* 5, 198-207 (1940).—Under specified exptl. conditions, fructose and HCN did not react, whereas fructose 1-phosphate (as the Ba salt) combined with 35% of the HCN originally present. In the presence of NH_3 , more HCN was added by fructose 1-phosphate than by fructose. The equil. between the cyclic and oxo forms is shifted more to the oxo form in fructose 1-phosphate solns. than in solns. of fructose. H. Priestley

Lib of Carbohydrates, Chem. Sect. of VIEM, Moscow

ASAC SLA METALLURGICAL LITERATURE CLASSIFICATION

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PROCESSES AND PROPERTIES INDEX																										IND AND 1TH ORDERS																									
<div style="display: flex; justify-content: space-between;"> ca 10 </div> <p>Active form of simple sugars. VII. Reactivity of fructose 1,6-diphosphate. A. V. Stepanov and B. N. Stepanenko. <i>Biochimiya</i> 5, 567-73(1940); cf. C. A. 35, 13851. Fructose diphosphate combines more rapidly with HCN (80% in 2 hrs.) than does fructose monophosphate (13%), indicating a considerable shift in equil. in favor of the oxo form. Free fructose does not combine at all under the same conditions. The frequent conversion of a hexose under biol. conditions to a phosphoric acid ester favors the oxo form, which has a greater reactivity, and renders the sugar more labile. H. Priestley</p> <p>LAB. OF CARBOHYDRATES, VIEM, MOSCOW</p> <p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

PRECEDENTS AND PROPERTIES INDEX																									
1ST AND 2ND ORDERS													100 AND 4TH ORDERS												
<p><i>CA</i></p> <p>The chemistry of chlorophyll. D. N. Stepanenko. <i>Sovetskii Khim.</i> 13, 402-93(1944).—A review, including historical development, phys. properties of chlorophylls a and b, chem. structure of chlorophylls a and b, chemistry of the derived porphyrins, methods of isolation from plant material, and chemistry of protchlorophyll, bacteriochlorophyll, and related plant pigments. 132 references. S. Gottlieb</p> <p><i>11D</i></p>																									
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																									

CA 11d

PROCESS AND PROPERTIES

Modern concepts of the chemical structure of chlorophyll. B. N. Stepanenko. *Bull. Acad. Sci. U.R.S.S., Ser. Biol.* 1947, 311-54 (in Russian). Review with many references. G. M. Koudapoff

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

11-1

PROCESSES AND PROPERTIES OF
Reaction of iodine with glycogens of various origins
B. N. Stepanenko and E. M. Afanas'eva (Acad. Sci.,
Moscov). *Russkimiya* 12, 111-22(1947). The reaction
product of glycogen with I has the same absorption spectra,
regardless of whether the rabbit and frog-liver glycogen
were prepd. by prolonged extrn. with 20% KOH, or by
rapid extrn. with 10% CCl₄CO₂H. Rabbit muscle and liver
I-glycogen give the same absorption spectra. With the
frog, the absorption spectra are different, with an absorp-
tion max. at 480 mμ for liver, and 500 mμ for muscle.
Glycogen from various organs and species can be distin-
guished by means of the absorption curves of the reaction
product with I. H. Priestley

LAB. OF PHYSIOLOGICAL CHEM. ACADEMY OF SCIENCES., USSR, MOSCOW

CA

PROCESSES AND PROPERTIES INDEX

The color reaction of polynaccharides with iodine. H.
N. Stepanenko. *Uspehi Khim.* 16, 708 27(1947).
Crit. review; 06 references. N. Thou

8

ASTM 514 METALLURGICAL LITERATURE CLASSIFICATION

Products of biological cleavage of glycogen. B. N. Glikson and R. M. Almas'eva (Lab. Physiol. Chem., Acad. Sci. U.S.S.R.). *Doklady Akad. Nauk S.S.S.R.* 63, 415-18 (1948).—Absorption spectrometry of cleavage products of glycogen (rabbit or frog) showed that the decline of the extinction coeffs. with incubation has 2 steps in rabbit specimens and 1 step (break) in frog specimens. The positions of the maxima were unchanged. The results indicate the gradual cleavage of side chains from a compact central unit and that the rabbit specimen has longer av. side-chain length than the frog specimen. The color formation with iodine (absorption about 5000 Å.) appears to require 7-13 glucose residues per 2-3 iodine mols. (L. M. Kowaloff)

ZBARSKIY, B.I., prof.; ZBARSKIY, I.B.; SOLNTSEV, A.I.; STEPANENKO, B.N.,
red.; DEMKINA, A., tekhn. red.

[Laboratory manual of biological chemistry] Praktikum po biolo-
gicheskoi khimii. Moskva, Medgiz, 1949. 223 p. (MIRA 15:4)
(BIOCHEMISTRY--LABORATORY MANUALS)

STEPANENKO, B. N.

25625. STEPANENKO, B. N. i AFANAS'YEVA, Ye. M. O vzaimoleystvii s iodom glikogenov i apoglikogenov. Biokhimiya, 1949, VYP.4, s.317-26 --- Bibliogr: 11 nazu.

SO: Letopis' Zhurnal' Nykh Statey, Vol. 34, Moskva, 1949.

38032. STEPANENKI, B. N. and SILAYEVA, YE. A.

O NYEKOTORYKH SVOYSTVAKH 1, 6 - DIFOSFATA FRUKOZY. BIOKHIMIYA, 1949,
VYP. 6, S. 544-51 - BIBLIOGR: 16 NAZV.

CA

11a

Interaction of iodine with glycogens and apoglycogens.
B. N. Stepanenko and E. M. Afanas'eva. *Biokhimiya*
14, 317-26(1949); cf. C.A. 41, 5150k; Meyer, C.A. 37,
5740; Swanson, C.A. 42, 3411b.—The apoglycogen was
formed by the rupture of the 1,4-linkage in glycogen with
 β -amylase. The specific rotation of the apoglycogen was
somewhat less than that of the initial glycogen. The
compd. from pure rabbit liver glycogen and I gave an ab-
sorption max. at 5000 Å. When 16.8% of the glycogen
had been converted into the apoglycogen, the absorption
max. of the iodinated mixt. became 4300 Å. Further
conversion of the glycogen up to 50.0% yielded the same
max. (4300 Å.) but with an extinction value of 0.24,
compared to 0.46-52 for the initial iologlycogen. Pure
frog liver glycogen and I gave an absorption max. at
4300 Å. After enzymic treatment of the frog glycogen,
the apoglycogen fraction combined with I possessed the
same absorption max., 4300 Å., but with lower extinction
values. The color produced by the action of I on glyco-
gen is dependent on the length of the side chains. The
glycogen of rabbit liver has longer side chains than the
glycogen of frog liver. The intensity of the coloration of
polysaccharides with I also depends on the length of the
side chain. H. Priestley

THE LAB. OF PHYSIOLOGICAL CHEM. OF THE ACADEMY OF SCIENCES, USSR, MOSCOW

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

13

Properties of fructose-1,6-diphosphate. B. N. Stepanenko and R. A. Silaeva (Moscow Pharmaceutical Inst.). *Biokhimiya* 16, 644-51 (1949); cf. *C.A.* 33, 4742; 44, 6764. --Fructose-1,6-diphosphate (I) is most readily decomposed by alkalase into triose phosphates. Attempts to show that I is less easily split by KOH than is fructose have failed, because the strong alkali used hydrolyzed the phosphate groups of I so rapidly that the resulting fructose formed tartaric acid at the same rate as fructose in a parallel expt. (Kvans and Hockett, *C.A.* 34, 6720). Glucose-6-phosphate increases the muscle contraction by 9%; but I does so by 60%. The Na salt of I (not described in the literature), which was used in the expts., is obtained in a solid form, and not in an emulsion, by treating the Ba salt of I, dissolved in 10 parts of water, with the calcd. amt. of Na₂SO₄. The suspension is brought to 0°, and shaken at that temp. for 24 hrs. The BaSO₄ is removed by centrifuging and filtering. The filtrate is treated with 2 vols. of alc. After several hrs., the ppt. is rapidly filtered and stored in a vacuum desiccator charged with P₂O₅. The Na salt of I is very hygroscopic, and unless the filtration is rapid, a sirup is obtained. H. P.

PL2/5/147

USSR/Chemistry - Fructose Sugars Sep 49

"Study of the Properties of 1,6-Diphosphate of Fructose (I)," B. M. Stepanenko, Ye. A. Silayeva Moscow Phar Inst, Min of Pub Health USSR, Lab of Physiol Chem, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXVIII, No 1

Describes a new method of obtaining sodium salt of I in dry form. Carried out a comparative study of cleavage of fructose and I. Tests conducted in Physiol Lab, Inst of Biochem, Acad Med Sci, showed that I caused 43.7% more muscle contraction (in frogs) than acetylcholine alone if

2/50747

USSR/Chemistry - Fructose Sugars (Contd) Sep 49

muscle was first treated with a solution of sodium salts of 6-phosphate of glucose or I. Submitted by Acad A. I. Oparin 8 Jul 49.

2/50747

CA

The content of acyclic forms of various sugars in aqueous solutions. H. N. Stepanenko and O. G. Serdyuk (Moscow Pharm. Inst.). *Russkaya* 15, 135-61 (1950). The relative amts. of the aldehyde form of sugars in soln. was detd. with the Schiff reagent of Tobie (C.A. 36, 4037) with a colorimeter and a photoelec. absorptiometer. The relative concn. of the aldehyde form of sugars in solns. of 0.25 M at pH 3.7 is given by the following proportion: arabinose:n-xyllose:D-galactose:D-glucose:maltose:lactose = 20:21.15:12:6.5:5.1. A theoretical explanation is offered concerning the stability of the cyclic sugars by reference to mol. space models. Thus, L-arabinose contains the least stable ring because of the strong asymmetric spacing of the OH groups. D-glucose possesses the most stable cyclic structure of the simple sugars because it has the most sym. arrangement of the OH groups. H. Priestley

CA

10

Cleavage of sugar hydrazones by aldehydes. B. N. Strizhenko and V. A. Ignatyuk-Malstrenko. *Doklady Akad. Nauk S.S.S.R.* 79, 1251 (1950). In the prepn. of free aldehydic forms of sugars with blocked OH groups, the following scheme was used: *Galactose phenylhydrazone*, m. 148-9°, was acetylated by Ac₂O-pyridine at 0-5° to the *pentac-ac. deriv.*, m. 133-4°. The analogous *mannose deriv.* m. 55-65°. Heating these with H₂I in H₂O, EtOH, C₆H₆, dioxane, or aq. EtOH gave red resins but no hydrazones of H₂I could be detected; apparently the free CHO group could not be secured by this method since the intermediate product, presumably a hydrazo compd., cannot cyclize for stabilization. Phenylhydrazones of mannose and galactose are readily cleaved by heating with H₂I in solvents contg. H₂O; the reaction is nil in nonaq. solvents. The reaction proceeds best in dil. solns. (1:100). G. M. K.

CA

11 H.

Treatment of traumatic shock in animals by 1,6-fructose diphosphate. P. F. Minaev, B. N. Stepanenko, and E. A. Silieva (Moscow Pharm. Inst.). *Doklady Akad. Nauk S.S.R.* 74, 153-6(1950).—Injection (suboccipital, intravenous, or intraarterial) of 2-4 mg./kg. of the Na salt of fructose diphosphate into cats or dogs in shock induced by crushing of limbs gave fair recovery from shock by suboccipital injection, good effect with administration into the blood stream even in deep shock. The intravenous method gives results within a few min., with best results obtained at 0.5-1.5 g./kg. dosage; larger or smaller doses are less effective. Blood pressure shows a 200-300% rise, although generally the normal level is not reached; respiration characteristics become normal in 8-15 min. G. M. K.

Stenasonko, B. N.: Organicheskaya khimiya [Organic
Chemistry]. Moscow: Medgiz, 1931. 500 pp. Reviewed
in *Aptekhnor Delo* 2. No. 6, 60-2 (1953).

CA

11 A

New data on the study of glycogen and its biological transformations. H. N. Stepanenko, A. N. Petrova, and E. I.

Rosenfel'd. *Izvest. Akad. Nauk S.S.S.R., Ser. Biol.* 1951, No. 1, 80-106; cf. *C.A.* 43, 79806; 91006.—The results of the earlier studies on glycogen are summarized as follows. The color produced by I-glycogen system and the intensity of color depends exclusively on the length of glycogen side chains. Enzymic reduction of chain length causes the extinction and abs. max. to decline (the latter to shorter waves). In the course of reactions of glycogen with enzyme systems protein mols. play a role affecting the course of glycogen degradation. Thus myosine accelerates phosphorylase of glycogen but does not affect the reaction of alkali-treated glycogen. While glucose is the final product 2 paths exist, a one-step process by the action of α -amylase or a 2-step process in which α -amylase first yields maltose which is cleaved by maltase. The new enzyme, amylose isomerase, having the properties of a globulin, has been isolated from muscle tissue; it permits deeper than usual cleavage of glycogen residues by β -amylase so that by successive additions of the enzyme it is possible to cleave glycogen to fermentable sugars. The isomerase is remarkably stable being only partly inactivated by 100° in 0.5 hr. Expts. with D₂O tracing in frog glycogen *in vivo* showed that during liver-glycogen decline not only its breakdown but a simultaneous biosynthesis of the substance occurs; this event cannot be detected except by tracer methods. The mechanism of glycogen cleavage is discussed. G. M. K.

USSR/Biology (Agriculture) - Starch From Sep/Oct 51
Potatoes

"Starch and Its Formation in Potatoes," B. N. Stepanenko, Ye. L. Rosenfel'd, A. N. Petrova, A. V. Kotelnikova, Moscow

"Uspekhi Sovrem Biol" Vol XXXII, No 5, pp 193-231

Potatoes are a very important crop in the USSR; 7.7 million hectares were planted under potatoes before World War II and the acreage was 5% higher in 1950. Yield from 1 hectare corresponds to 1,600 liters of alc, which may serve as raw material for synthetic rubber. While yields were raised by 21% during the past 10 yrs, the starch content is often inadequate. 19871

USSR/ Biology (Agriculture) - Starch From Sep/Oct 51
Potatoes (Contd)

A number of interesting investigations on starch formation in potatoes was carried out at the Inst of Biochem Jment Bakh, Acad Sci USSR. This work and other data will help in raising the starch content. Reviews in detail the present status of the problem of phytochem starch formation.

19871

STEPANENKO, B. N.

STEPANENKO, B.N.; KRYUKOVA, G.K.

Technique of β -phenyl β -glucoside synthesis. Doklady Akad. Nauk S.S.S.R. 86,
333-5 '52. (MLRA 5:9)
(CA 47 no.22:12262 '53)

1. STEPANENKO, B. N.; AFANASEVA, YE. M.

2. USSR (600)

4. Amylose

7. Structure of amylose of potato tubers, Dokl. AN SSSR, 86, No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

STEPANENKO, B.N.: AFANAS'YEVA, YE. M.

Starch

Studying starch fractions of the potato tuber during ripening. Dokl. AN SSSR 86,
no. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

STANISLAW, E. M.

(4) *Chem.*

Syntheses of some halogen-substituted phenol β -D-glucosides. B. N. Stepanenko and G. K. Kryukova.
Doklady Akad. Nauk S.S.S.R. 89, 885-87 (1953); cf. Fischer and Strauss, C.A. 7, 87. — Heating 3.9 g. pentaacetylglucoside, 5.2 g. 2,4,6- $\text{I}_3\text{C}_6\text{H}_2\text{OH}$, and 0.2 g. $p\text{-MeC}_6\text{H}_4\text{SO}_3\text{H}$ in 50 ml. C_6H_5 , 3 hrs. with stirring, washing the product with H_2O , and evap. the org. layer gave 23% 2,4,6-triiodo-phenyl β -D-glucoside tetraacetate (I), needles, m. 163-4° (from EtOH), $[\alpha]_D^{25}$ -8.8° (C_6H_5). The glucoside reduces Fehling soln. in cold and in hot soln., and the reduction is more energetic after preliminary hydrolysis with 10% HCl. A similar reaction with 2,4,6-tribromoresorcinol, m. 111°, gave a noncryst. sirup of partly deacetylated glucoside which with Ac_2O -NaOAc yielded 20% 2,4,6-tribromo-3-hydroxyphenyl β -D-glucoside pentaacetate (II), needles, m. 178° (from EtOH), $[\alpha]_D^{25}$ -9.2° (C_6H_5); it reduces Fehling soln. on heating and the reduction is more energetic after preliminary hydrolysis with 10% HCl. Similarly was obtained 27.3% p -chlorophenyl β -D-glucoside tetraacetate (III), needles, m. 124-5° (from EtOH), $[\alpha]_D^{25}$ -31.1° (C_6H_5); it reduces Fehling soln. after preliminary acidic hydrolysis. I and II on attempted hydrolysis with MeONa under all conditions that were tried suffered cleavage of the glucoside link and gave the aglycon, instead of effecting the desired cleavage of the AcO groups; $\text{Ba}(\text{OH})_2$, NH_4OH , and PhNH_2 gave similar results. III was best hydrolyzed as follows: to 0.5 g. III in 3 ml. abs. MeOH was added $\frac{1}{100}$ of the theoretical amt. of 0.1N MeONa-MeOH, and the mixt. agitated in a closed flask 0.5 hr. at room temp. and concd. *in vacuo*; the resulting p -chlorophenyl β -D-glucoside (71%) crystd. from MeOH in needles, m. 179-80°, $[\alpha]_D^{25}$ -87.2° (11% C_6H_5), having no reducing properties but acquiring them after hydrolysis with 10% HCl. G. M. Kosolapoff

STEPANENKO, B.N.;AFANAS'YEVA, Ye.M.

Formation of glycogens in various species of animals, Doklady Akad.
nauk SSSR 90 no.6:1095-1098 21 June 1953. (CML 25:1)

1. Presented by Academician A. I. Oparin 8 May 1953. 2. Laboratory
of Physiological Chemistry of Academy of Sciences USSR.

STEPANENKO, B.N. (Moskva)

Work of M.V. Nenskiy on the chemistry of pyrrole pigments. Usp.biol.
khim. 2:7-26 '54. (MIRA 12:12)

(PYRROLES,

research of M.V. Nentskii on pyrrole pigments)

(PIGMENTS,

research of M.V. Nentskii on pyrrole pigments)

(BIOGRAPHIES,

Nentskii, M.V., bibliog.)

(BIOGRAPHIES,

Nentskii, M.V.)

STEPANENKO, B. N.

USSR/Biochemistry

Card 1/1

Authors : Stepanenko, B. N. and Kainova, A. S.

Title : Study of synthetic glycogens.

Periodical : Dokl. AN SSSR, 95, 6, 1263 -1266, 21 Apr 1954

Abstract : Description of an experimental study of four synthetic glycogens is given in the article. The experiment was performed by the method of fermentation in vitro with the help of two muscular ferments (phosphorylase and "isomerase" of amylase). Tables and diagrams.

Institution :

Submitted : 28 Jan 1954

STEPANENKO, B.N.

[Preparation of glycogens in vitro by means of muscle ferments and the study of synthetic glycogens; reports and papers of the Third International Congress of Biochemistry, Brussels, 1-6 August, 1955]
Preparativnoe poluchenie glikogenov i vitro pri pomoshchi myshechnykh fermentov i izuchenie sinteticheskikh glikogenov; soobshchenia i doklady na III Mezhdunarodnom biokhimicheskom kongresse, Briussel', 1-6 avgusta 1955 g. Moskva, Izd-vo Akad.nauk SSSR, 1955. 28 p.
[Parallel texts in Russian and French]. (MIRA 11:6)

(GLYCOGEN)

STEPANENKO, Boris Nikolayevich.

[Organic chemistry for students of pharmaceutic institutes] Kurs
organicheskoi khimii dlia studentov farmatsevticheskikh institutov.
Moskva, Medgiz, 1955. 658 p. (MIRA 11:9)
(Chemistry, Organic)

Stepanenko, B. N.
Med
Preparation of glycogens in vitro with the aid of muscle enzymes, and a study of synthetic glycogens. B. N. Stepanenko, A. S. Kalnova, and A. N. Petrova (Acad. Sci. U.S.S.R., Moscow). *Congr. intern. biochim., Résumés communs., 3^e Congr., Brussels 1955*, 50-1 (in Russian and French); cf. *C.A.* 49, 8458c; 50, 2824c.—A series of synthetic glycogens (I) was synthesized *in vitro* from glucose-1-phosphate by the use of phosphorylase and the enzyme amylose isomerase. The mol. wts. of the I approached those of natural glycogens (II). Agglomerations of mass of about 20-fold were not accompanied by any increase of mol. wt. In their reactions with iodine, the I resembled II and differed considerably from amylopectins. Like II, the I formed complexes with myosin, demonstrated by shifts in the absorption max. in the ultraviolet. The structures and lengths of chains in I are discussed. W. C. Tobie

3

Stepanenko, B.N.

400 1- RML

1995 AEC-tr-2435((Pt. 4) (p.181-8))
STUDY OF CARBOHYDRATE METABOLISM IN THE
ANIMAL ORGANISM WITH THE AID OF RADIOACTIVE
CARBON. B. N. Stepanenko. p.181-8 of CONFERENCE
OF THE ACADEMY OF SCIENCES OF THE USSR ON THE
PEACEFUL USES OF ATOMIC ENERGY, JULY 1-5, 1956.
SESSION OF THE DIVISION OF BIOLOGICAL SCIENCE.
(Translation). 8p.

This paper was originally abstracted from the Russian
and appeared in Nuclear Science Abstracts as NSA 9-7664.

RML

STEPANOV BH

✓ Carbohydrate metabolism in the animal organism with the aid of radioactive carbon. B. N. Stepanenko, *Sessiya Akad. Nauk S.S.S.R. po Mirnoim Ispol'zovaniyu Atomnoi Energii* 1955, *Zasedaniya Otdel. Biol. Nauk*, 305-18 (English summary, 318-9).—Introduction of $\text{NaH}^{14}\text{CO}_3$ and a predet. dose of adrenaline to hungry animals (rats) leads to increased concn. of liver glycogen and considerable assimilation of C^{14} in the glycogen. C^{14} -labeled glucose formed with the aid of adrenaline is shown to contain the label in the 3- and 4-positions. Introduction of adrenaline stimulates the synthesis of carbohydrate chains with inclusion of C^{14} in the glucose residues in the liver; it does not operate or operates in the opposite sense with diabetic animals. In the central highly branched parts of glycogen the C exchange occurs much more slowly than it does in the peripheral areas. The use of the stimulating action of adrenaline permitted the development of specific lab. conditions suitable for prepn. of C^{14} -labeled glucose and glycogen. The highest activity resulted from 1:5000-10,000 concn. of adrenaline in the medium contg. the labeled bicarbonate.
G. M. Kosolapoff

STEPANENKO, B. N.

✓ Biological role of glycogen and characteristics of glycogen metabolism in alloxan diabetes. B. N. Stepanenko, L. P. Khayurova, and G. V. Zubrilina (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 20, 479-84 (1955); cf. *C.A.* 49, 8458e.—Carbon-14 in the form of $\text{NaH}^{14}\text{CO}_3$ was used. It was shown that adrenaline stimulated the formation of glycogen in starving rats; such an effect was absent in diabetes. Isotopic exchange proceeded at a much lower rate in the inner sections of the glycogen mol. than in the peripheral sections. B. S. Levine MD

(2)

578 / 1413 1415
STEPANENKO, B.N., doktor biologicheskikh nauk

Book on theoretical problems in biochemistry ("Biochemistry of
metabolism." N.M.Sisakian. Reviewed by B.N.Stepanenko). Vest.
AN SSSR 25 no.9:111-115 S'55. (MLRA 8:12)

(Metabolism) (Sisakian, N.M.)

STEPANENKO, B. N.

USSR/Chemistry - Biochemistry

Card 1/1 Pub. 22 - 32/54

Authors : Stepanenko, B. N.; Zubrilina, G. V.; and Khayurova, L. P.

Title : Glycogen metabolism in normal state and during alloxan diabetes investigated by means of radioactive carbon

Periodical : Dok. AN SSSR 100/3, 521-524, Jan 21, 1955

Abstract : Glycogen metabolism was investigated in healthy adult rats and in rodents inflicted with alloxan diabetes. The experiments were conducted by means of radioactive C^{14} and the results obtained are described. One USSR reference (1953). Tables.

Institution : Academy of Sciences USSR, Laboratory of Physiological Chemistry

Presented by: Academician A. I. Oparin, September 2, 1954

BELITSER, V.A.; KOTEL'NIKOVA, A.V.; LYUBIMOVA, M.N.; SEVERIN, S.Ye.;
STEPANENKO, B.N.; ENGL'GARDT, V.A.

Second International Conference on Lipids and the Third Inter-
national Biochemical Congress. Vop.med.khim. 2 no.1:73-79 Ja-F '56.
(GHENT--LIPIDS--CONGRESSES) (MLRA 9:9)
(BRUSSELS--BIOCHEMISTRY--CONGRESSES)

USSR / Human and Animal Physiology. Heart.

T

Abs Jour : Ref Zhur - Biol., No 15, 1958, No. 70134

Author : Turpayev, T. M.; Borbova, L. N.; Stepanenko, B. N.

Inst : Academy of Sciences USSR

Title : The Action of Phosphorylated Carbohydrates on the
Myocardium

Orig Pub : Dokl. AN SSSR, 1956, Vol 109, No 5, 1077-1080

Abstract : The 1,6-diphosphate of fructose (I) in a concentration of 0.2 percent produces initially a transient sharp increase in the amplitude of ventricular contractions of the isolated frog heart, then a brief suspension of contraction, and finally, a stable, prolonged increase in strength of contractions. The duration of the third phase depends on the concentration of I. Other phosphorylated hexoses show a very feeble effect on the contractile properties of myocardium. -- M. F. Merezhinskiy

Card 1/1

Lab. Phys. Chem., AS USSR

N/5
014.12
.S2
1957

STEPANENKO, BORIS NIKOLAYEVICH

ORGANICHESKAYA KHIMIYA (UCHEBNIK)
(ORGANIC CHEMISTRY; TEXTBOOK) 2. 12.
MOSKVA, MIRGIZ, 1957.
415 n. ILIUS., DIAGN., FORMS.,
TABLES

SHIMIZU, S. K.

"Influence of adreneline on fixation of carbon dioxide in a normal and diabetic animal," a paper submitted at the International Conference on Radioisotopes in Scientific Research, Paris, 9-20 Sep 57.

EXCERPTA MEDICA Sec 2 Vol 12/1 Physiology Jan 59

17. SOME RESULTS IN THE STUDY OF CHEMICAL STRUCTURE OF GLYCOGENS (Russian text) - Stepanenko B. N. - IZV. AKAD. NAUK SSSR (Mosk.) 1957, 6 (706-717) - Graphs 3 - Tables 4 illus. 11

The difference between glycogens from frog and rabbit liver was demonstrated by the colour of their respective iodine complexes. The maximum extinction for frog iodoglycogen was 4800 A. and that of rabbit 5000 A. The products obtained at varying stages of enzymic degradation of the liver glycogens were also treated with iodine in exactly the same way; their absorption spectra were markedly different. It is deduced from these experiments that the external amylose chains of rabbit glycogen are longer than those of frog glycogen. No glucose was detected after periodate oxidation and chromatography, confirming the absence of 1-2 or 1-3 glucoside bonds in glycogen. Molecular weights of rabbit and frog glycogens were both in the range 0.25×10^6 to 1.13×10^6 . The mean lengths of unit chains for frog and rabbit were 11 and 13-14 residues respectively, while the external and internal branches were 6-7 and 3 for frog glycogen, and 8-9 and 4-5 for rabbit glycogen, corresponding to the results obtained in the iodine reaction. A short account is given by the author and coworkers of the synthesis of a glycogen-type polysaccharide from glucose-1-phosphate by means of freshly prepared muscle phosphorylase which produces amylose type units; and secondly of amylose isomerase which produces branched polyglucosides. The synthesis, which was 'seeded' by a small quantity of glycogen, was activated by cysteine. Samples of 500-1000 mg. synthetic glycogen obtained by this means were not uniform in constitution, but molecular weights, determined by the method of Meier and by a new method of the authors, showed that they were of the same order of magnitude as natural glycogens. Mean unit chain lengths of synthetic material ranged from 15.6 to 23 residues, while the mean lengths of internal and external branches were 7.2 to 11.5. The spectral absorption curve of the iodo derivative of synthetic glycogen is very near that of natural glycogen and lower than that of iodo derivative of potato amylopectin. Both synthetic and natural glycogen form complexes with myosin, shifting the UV absorption maximum of the latter. Following administration of $\text{NaH}^{14}\text{O}_3$ to rats, radioactive glycogen was obtained. By enzymic degradation, the external branches of the glycogen were found to be 4 times more radioactive than the internal branches. These facts suggest a mode of glycogen biosynthesis.

Edward - Montreal

STEPANENKO, B.N.; AFANAS'YEVA, Ye.M.

Studying the structure and iodine reaction of amylopectins and crystalline amylases of potato tubers during their maturation in fertilized and unfertilized fields [with summary in English].
Biokhimiia 22 no.1/2:305-318 Ja-F '57. (MLRA 10:7)

1. Laboratoriya fiziologicheskoy khimii Akademii nauk SSSR, Moskva.
(POTATOES) (AMYLOPECTINS) (AMYLASES)

STEPANENKO, B.N.

STEPANENKO, B.N.; BOBROVA, L.N.

Method for producing stable forms of the sodium salt of fructose
1, 6-diphosphate (sodium-DFF) [with summary in English]. Biokhimiia
22 no.6:1019-1022 N-D '57. (MIRA 11:2)

1. Laboratoriya fiziologicheskoy khimii Akademii nauk SSSR, Moskva.
(FRUCTOSE, related compounds,
1,6-diphosphate, prod. of stable prep. (Rus))

~~STEPANENKO~~, B.M., prof., otvetstvennyy red.; MEYSEL', M.N., prof.,
otvetstvennyy red.; KOVAL'SKIY, V.V., prof., otvetstvennyy red.;
BAYEV, A.A., kand.biol.nauk, red.; MEDVEDEVA, G.A., kand.biol.
nauk, red.; TURPAYEV, T.M., kand.biol.nauk, redaktor;
PASHKOVSKIY, Yu.A., redaktor izd-va; PRUSAKOVA, T.A., tekhn.
red.

[Study of the animal organism; Fish culture; Food industry;
proceedings of a conference] Izuchenie zhivotnogo organizma,
Rybnoe khoziaistvo, Pishchevaia promyshlennost'; trudy konverentsii.
Moskva, Izd-vo Akad. nauk SSSR, 1958. 263 p. (MIRA 11:5)

1. Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu
radioaktivnykh i stabil'nykh izotopov i izlucheniye v narodnom
khozyaystve i nauke, 1957.
(Radioactive tracers)

STEPANENKO, B.N.

AUTHOR: ^{p. 2} None Given

30-58-5-14/36

TITLE: In the Department of Biological Sciences (V otdelenii biologicheskikh nauk)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 5, pp 60-62 (USSR)

ABSTRACT: The secretary V. A. Engel'gardt, Member, Academy of Sciences, USSR reported on the work of the department and its institutions in the year 1957. He emphasized a number of serious deficiencies of the biological institutions of the AS. Above all there are not enough rooms for new as well as for already existing institutes and laboratories. The Botanical, Zoological and Soil Institute urgently need experimental field bases. Working cycles on the electron-microscopic investigation of the functional structure of muscles were terminated as well as on the radiographic investigation of collagen and on the determination of the mechanisms of the biological influence of ultrasonics. The gradual theory of the propagating excitation by the deceased D. N. Nasonov was further developed. Treatises on the part played by inner-secretory glands in the development of organisms and on the resistance to cold of insects were published. Further different researches are also mentioned which are performed at

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In the Department of Biological Sciences

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present. In 1957 the 24-th volume "Flora of the USSR", the 4-th volume "Flora of Spore Plants" and a chart of the vegetation of Central Asia and Southern Kazakhstan on a large scale were edited. The 13-th volume of the treatise "Trematodes of Animals and Man" was published. In the past year new biological institutions were established: the Institute for Cytology on the basis of the Laboratory of the same name, the northern branch of the Forestry Institute in Arkhangel'sk, the Kuybyshev Station of the Institute for Biology of Water Reservoirs and some new laboratories. In Moscow an international symposium on the formation of life was called. In a special information V. A. Engel'gardt outlined the plan of the development of biological sciences for the years 1959-1965. V. N. Sukachev, Member, Academy of Sciences, USSR reported on the work of biologists in 1957, where he pointed out the lack of specialists in the fields of cytology, biophysics, paleontology, botanics, zoology and some others. The following persons participated in the discussions:

- 1) G. Ya. Bey-Biyenko, Corresponding Member, Academy of Sciences, USSR spoke on tasks in connection with the establishment of the Siberian Branch.
- 2) B. N. Stepanenko, Doctor of Biological Sciences, emphasized

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the importance of an increase in contact of biology with chemistry.

3) G. K. Khrushchov, Corresponding Member, Academy of Sciences, USSR and a number of other speakers also spoke on the necessity of strengthening the contacts between biologists and physicists as well as chemists. He called it an essential disadvantage that the office of the department in its activity mainly restricted to scientific-organizational problems, which was supported by several other speakers.+

4) A.A. Imshenetskiy, Corresponding Member, Academy of Sciences, USSR, advocated the opinion that the office of the department should take up everything new in science and that it should act as initiator in the posing of new principal scientific problems. He made the proposal to introduce prize competitions for the best works.

5) E. A. Asratyan, Corresponding Member, Academy of Sciences, USSR emphasized the one-sided development of physiology in the country and stated that neurophysiology is developed to a very limited extent.

6) N. M. Sisakyan, Corresponding Member, Academy of Sciences, USSR emphasized the necessity of creating connections between the scientific institutions of the department and the councils

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STEPANENKO, B.N.; BOBROVA, L.N.

The "sodium-DPP" preparation (sodium salt of fructose diphosphate) and its practical use and "ZSC" (zymostimulator cordis), the new "yeast" stimulant of cardiac activity. Izv. AN SSSR. Ser. biol. no.5:597-609 S-0 '58. (MIRA 11:10)

1. Laboratoriya fiziologicheskoy khimii AN SSSR.
(FRUCTOSE PHOSPHATES) (CARDIAC GLYCOSIDES)

B. N. STEPANENKO, Ye. M. AFANAS'YEVA and R. A. BAKSOVA

"On the chemical nature of a new polysaccharide"

The Chemistry and Metabolism of Carbohydrates in Animal and Plant Organisms.
Conference in Moscow. January 28 to January 30 1958.

(VAN SSSR, No 6, 1958)

STEPANENKO, B. N.

SOV/ 30-51-6-30/45

AUTHOR: Sergiyenko, I. Z.

TITLE: The Chemistry and Metabolism of Carbohydrates in Animal and Plant Organisms (Khimiya i obmen uglevodov v zhivotnom i rastitel'nom organizmakh) Conference in Moscow (Konferentsiya v Moskve)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 6, pp. 112-114 (USSR)

ABSTRACT: This conference took place from January 28 to January 30. It was organized by the Laboratory for Physiological Chemistry of the AS USSR and was attended by about 200 specialists, among them organochemists, biochemists, physiologists, pharmacologists, histologists and physicians who represented various scientific institutions of the AS USSR, of the Academy of Medical Sciences of the USSR, of the VASKhNIL, of a number of universities and other colleges, as well as of branch institutes from all the country. It was opened by the Director of the Laboratory for Physiological Chemistry B. N. Stepanenko. He stressed in his detailed report among other things the great theoretical interest in the investigation of the ab-

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The Chemistry and Metabolism of Carbohydrates in Animal and Plant Organisms.
Conference in Moscow

soluble formation of simple carbohydrates. New and great success was achieved in the field of the O- and N-glycosides. He reported on some important results of the work in laboratories. Furthermore the following reports were heard:

- 1) S. N. Danilov: On the reaction of the simultaneous oxidation and regeneration in a group of carbohydrates.
- 2) Yu. A. Zhdanov: On the use of different methods of synthesis.
- 3) B. N. Stepanenko, L. K. Kryukova, O. G. Serdyuk: On investigations carried out in the field of some O- and N-glycosides.
- 4) O. K. Orlova: On 2 new diphtheria bacilli.
- 5) Ye. K. Alimova: On carbohydrates in the structure of diphtheria bacilli.
- 6) S. A. Neyfakh and M. P. Mel'nikova: On enzymatic members.
- 7) V. S. Il'in: On the importance of hexokinase reaction.

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Conference in Moscow

- 8) N. K. Nagradova: On the properties of the effect of the dehydrase of phosphorus-glycerin aldehyde.
- 9) A. P. Barkhash: On the method of the conversion of glucose.
- 10) A. N. Petrov: On the presence of a phosphorus-less method of synthesis in the liver.
- 11) M. I. Prokhorova and Z. N. Tupikova: On the intensity of the carbohydrate metabolism in organs.
- 12) B. I. Khaykina: On the velocity of the regeneration of free and bound glycogene fractions.
- 13) Ye. L. Rozenfel'd: On the function of animal organisms.
- 14) M. G. Shubich: On the results of the histochemical investigation of the glycogene of muscular tissue.
- 15) R. A. Rutberg: On the importance of polysaccharides in the investigation of the blood system.
- 16) G. Ya. Rozenberg and T. V. Polyshina: On the production, the

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- properties and characteristics of Soviet dextrin.
- 17) A. N. Petrova: On the problems of the pathology of carbohydrate metabolism.
 - 18) S. M. Leytes and N. T. Smirnova: On the effect of the antidiabetic preparation BZ-55.
 - 19) A. V. Kotel'nikova and G. D. Krechetova: On special problems of the pathology of carbohydrate metabolism.
 - 20) B. N. Stepanenko, Ye. M. Afanas'yeva and R. A. Baksova: On the chemical nature of a new polysaccharide.
 - 21) O. A. Pavlikova and M. V. Turkina: On conversions of saccharose in plant tissues.
 - 22) D. I. Lisitsin, M. S. Bardinskaya, M. I. Smirnova-Ikonnikova, Yu. V. Peruanskiy, G. A. Lukovnikova and V. I. Ivanov : On carbohydrates of plant origin.
- In the resolution the achievements **as well as the shortcomings** were mentioned. A commission for the coordination of work was founded.

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STEPANENKO, B.N., AFANS'YEVA, Ye.M., BAKSOVA, R.A.

Chemical nature of eremuran, a new polysaccharide from the roots
of *Eremurus regelii* [with summary in English]. *Biokhimiia* 23
no.5:713-720 S-O '58 (MIRA 11:11)

1. Laboratoriya fiziologicheskoy khimii AN SSSR i Moskovskoy
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(PLANTS,

Eremurus regelii, isolation & chem. of polysaccharide
eremuran (Rus))

(POLYSACCHARIDES,

eremuran, chem. & isolation from *Eremurus regelii*
(Rus))